

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Raymond Kurzweil
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Examiner : Cameron Saadat
Conf. No. : 9946

Title : VIRTUAL ENCOUNTERS

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Commissioner for Patents
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REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, Applicant responds to the Examiner's Answer as follows

Claims 1, 9, and 15

Appellant offered two distinct lines of reasoning – the combination of references did not suggest the features of the claims and the combination was improper.

Appellant argued that:

The combination of Abbasi and Choy neither describes nor would render obvious the claimed configuration of the goggles and specifically that the goggles are configured to “...render electrical signals representative of second video signals received from the communications network, ..., at least partially reflect surrounding views ... of a location different from a location of the mannequin,” as required by claim 1.¹

The examiner has yet to show that Abbasi and Choy together taught to render electrical signals representative of second video signals received from the communications network, ..., at least partially reflect surrounding views ... of a location different from a location of the

¹ Appeal Brief p. 9.

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mannequin. Abbasi did not describe a mannequin and Choy did not describe to render electrical signals representative of second video signals received from the communications network, ..., at least partially reflect surrounding views ... of a location ... different from ... the mannequin.

The examiner never answered Appellant's argument that the combination did not describe or suggest this feature. The examiner only directly answers the second argument regarding the combination of references.

The examiner first must show that a proposed combination of references is a valid combination.

In addressing Appellant's argument², the examiner states that:

In response to the appellant's argument, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in anyone or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413,208 USPQ 871 (CCPA 1981).³

Appellant does not dispute that the ultimate test is what the combined teachings would have suggested to one of ordinary skill. However, that is not the issue at hand with respect to this line of reasoning advanced by Appellant. Appellant addressed above the deficiency in the combination of references. The issue raised here by Appellant is whether one of ordinary skill would have combined the references in the manner suggested by the examiner's rejection. Only after that question is decided, should the test in as articulated by *Keller* come into play, which in Appellant's view would be that the combination did not suggest the features of the claim.

The examiner has not met the threshold requirement of whether it is suggested to combine the references and therefore reliance on *Keller* is misplaced. In attempting to set a foundation for the proffered motivation, the examiner initially mischaracterizes Choy. The examiner stated: "**In this instance both Abbasi and Choy et al are directed to inventions in which a user is**

² The Board is referred to Appellant's Appeal Brief for the argument.

³ Examiner's Answer p. 8.

allowed to view a video of another individual while interacting with a surrogate or mannequin.”⁴ Appellant disagrees. Nothing in Choy describes that a user is allowed to view a video of another individual while interacting with a surrogate or mannequin. Choy in fact teaches a virtual reality experience using virtual reality headsets.

Abbasi, in contrast to Choy uses a display mounted on a desktop computer system. The positioning and configuration of the display permits the user of Abbasi’s system to interact with the plurality of external sensory devices including the video camera (35A and 35B), a microphone (40A and 40B), and a speaker (45A and 45B), as well as, the mechanical surrogates 50 and 55 while view video.

It is evident therefore that Appellant’s assertion regarding why the person of ordinary skill would have avoided the combination of references is correct. In order for a user to interact with the mechanical surrogates 50 and 55 and sensor devices in a modified Abbasi, (modified by Choy the secondary reference) the user is required to remove the virtual reality headset disclosed by Choy. Notwithstanding, the examiner minimizing the relative difficulty of the combined teachings, this difficulty would lead one of ordinary skill to avoid the combination of references.

The examiner also argues that “**The user of Abbasi could easily locate the surrogate prior to starting a video and placing the goggles on. This argument implies that in order to interact with the surrogate the user most (sic) be capable of visually seeing the mannequin. This argument has no factual basis.**⁵” Appellant agrees that the examiner’s argument has no factual basis.

As Appellant has argued, the alleged combination hinders at least two of the purposes to which Abbasi exists: “(a) having remote physical contact through surrogates, and (c) communicating with each other, e.g., chatting, using keyboards and the user interface (abstract, column 7, lines 21-37). Only “(b) viewing video presentation on a graphical user interface” is unhindered by the combination. However, that function (b) is already performed, as well as, (or better) by Abbasi’s disclosed display, because the disclosed display also permits fulfillment of the other two purposes (a) and (c) disclosed in Abbasi. Therefore, the knowledge gleaned from Appellant’s disclosure of a virtual encounter provides the only motivation to combine the

⁴ Examiner’s Answer, p. 8

⁵ Id., p. 9

teachings of these references, a prime example of ex post reasoning that is cautioned against by the Court, in *KSR*.

Appellant believes that the examiner's poetic waxing regarding the spirit of mankind overcoming adversity is clearly true for those brave individuals not blessed with sight. However, rather than proving the examiner's case, the examiner's poetic waxing demonstrates why one of ordinary would have not made the suggested modification. For as the examiner acknowledges seeing an object in order to interact with that object in a physical manner is easier, and intended by Abbasi. However, the proposed combination of references destroys the functionality discussed by Abbasi and clearly detracts from the ease of use of Abbasi's system and therefore, compels the conclusion that the motivation for the combination is based solely on improper hindsight reconstruction.

The examiner argues that: "**No where (sic) in Abbasi does it state that the user must be in visual contact with the surrogate in order for proper operation, it simply requires that the user have physical access to the surrogate.**"⁶ While this statement is technically true, Appellant contends that it would be unnecessary for the reference to explicitly state this, because the visual contact is explicitly provided by the disclosed configuration of the display; and the configuration of the sensory devices and the surrogates 50 and 55 with the display makes it a requirement to use the display of Abbasi and eschews the Choy headset, as self-evident, and therefore clearly does not suggest to modify Abbasi to include the goggles, as claimed.

Piccionelli fails to correct the deficiencies in the combination of references.

Piccionelli's teachings of live performances do not suggest the feature of "at least partially reflect views and sound of a location different from a location of the mannequin in real-time." Again, Appellant points out that Choy deals with creating a virtual world and a virtual avatar, whereas Piccionelli deals with live performance, the combination of the two is inapposite. Appellant has not argued the references individually, but had merely pointed out the relevant

⁶ Examiner's Answer, p. 9.

teachings of each of the references and why the combined teachings as a whole failed to render obvious the claims.

The examiner stated: that: “**The invention does not exclude the use of real video.**”⁷ Appellant contends that it is not necessary for the claims to exclude the use of real video, if the claims cover something that is not disclosed in the combination of references, as pointed out above. Accordingly, Abbasi, Choy and Piccionelli neither describe nor would have rendered obvious claim 1.

Claims 2-3, 10, 14, and 16-17

The examiner stated that: “**The appellant relies upon the remarks above concerning claim 1 to support nonobviousness (sic) of the claims. The examiner reiterates the above arguments for obviousness.**”⁸ The examiner is in error.

Appellant argued that: “It would not have been obvious to modify Abbasi to include “a second set of goggles to receive the first video signals from the first camera,” for at least reasons discussed associated with the “set of goggles” recited by claim 1.”⁹ Appellant did not argue that these claims stand with claim 1, which is how Appellant interprets the examiner’s comments, but argued that the alleged combination of references could not be further modified to include “a second set of goggles to receive the first video signals” on the same basis as argued for the first set of goggles receiving the second video signals of claim 1.

Claims 21-23

Appellant has made a proper traversal of the official notice because the examiner's official notice fails to address the features of the claims. Specifically the feature of "the transduced electrical signals representing the modified second audio signals at the set of goggles represent at least partially modified sound of the surrounding of the location different from the location of the mannequin." The examiner's official notice is below:

⁷ Examiner's Answer, p. 10.

⁸ *Id.*

⁹ Appeal Brief, p. 16.

However, the examiner takes official notice that the feature of modifying audio signals that are captured via microphone is notoriously old and well known. For example, once an analog signal (voice) is captured by the microphone, it would be obvious to one of ordinary skill to modify the analog signal by digitizing and/or compressing the signal in order to store or transmit the data. (Emphasis supplied)¹⁰

The examiner is incorrect. Appellant did challenge the examiner's statement of official notice. The examiner had not shown that "modifying," as required by the claims was suggested by official notice, notwithstanding that it is old and well-known to digitize and/or compress an analog signal. The examiner stated that:

Appellant makes the general allegation that the mere acts of digitizing and/or compressing a signal is not analogous to modifying one or more characteristics of the audio signal. In contrast the claims calls for the modification of one or more characteristics of the audio signal so that the transduced electrical signals representing the modified audio signal at the set of goggles represents at least partially modified sound.¹¹

This is a distortion of what Appellant argued. Appellant did not make any general allegation regarding digitizing and/or compressing a signal as not analogous to modifying one or more characteristics of the audio signal. Rather, Appellant argued that:

Appellant contends that the examiner's reasoning is incorrect at least because the mere acts of digitizing and/or compressing the signal neither describe nor would have rendered over the entire claimed feature of: "a computer system modifying one or more characteristics of the second audio signals so that the transduced electrical signals representing the modified, second audio signals at the set of goggles represent at least partially modified sound of the surrounding of the location different from the location of the mannequin." Such a feature is not suggested by merely compressing or converting an analogy signal to a digital signal.¹²

¹⁰ Examiner's Answer p. 6.

¹¹ Id., p. 11.

¹² Appeal Brief, p. 17.

Claim 22 requires a modification by the computer such that the second audio signals at the set of goggles represent at least partially modified sound of the surrounding of the location different from the location of the mannequin. This modification is not suggested by the examiner's proffered official notice. The examiner seeks to explain away this deficiency in the official notice by arguing that:

When a signal is picked up at a first microphone it is an analog signal which must then be modified or converted into a digital signal. Digital signals are discrete points, represented in most computer systems by a series of 1's and 0's. This transformation, which commonly occurs when audio data is to be transmitted over a network, is a change in the characteristics of the original audio signal. Further, the processing of compressing an audio signal represents the modification of the size or memory volume required to store and transmit the signal.

The size of the file required to store the signal is yet another characteristic of the audio signal, which is again modified through the process of compressing the file. Once the file is transmitted it will require being decompressed (returned to its original size) and conversion back to an analog signal for output through an audio speaker. Thus the signal transduced at the second is a representation of the modified (previously converted and compressed) signal.¹³

"Modifications" by A/D conversion, changes to file size re-conversions, etc. do not suggest the claimed feature of a modification by the computer such that the second audio signals at the set of goggles represent at least partially modified sound of the surrounding of the location different from the location of the mannequin.

Claims 4, 5, 7, 8, 11, 13 and 18

The examiner argued that: "**The appellant makes no addition arguments concerning the independent patentability of these claims.**"¹⁴

Appellant argued for claim 4 that: "... Abbasi, Choy, and Piccionelli do not in combination suggest the second video signals and hence would not suggest the claimed interface."¹⁵

¹³ Examiner's Answer, p. 11.

¹⁴ *Id.*

¹⁵ Appeal Brief, p. 18.

The examiner has not shown the presence of the claimed interface in the combination of references. The claimed interface comprises:

an interface having one or more channels for:
receiving the first audio signals from the microphone;
receiving the first video signals from the camera;
sending the second video signals to the set of goggles; and
sending the second audio signals to the transducer

As for claim 8, Appellant argued that:

Claim 8 is patentable over Abbasi, Choy, and Piccionelli, at least because it would not have been obvious to modify Abbasi with the other references to include “a transmitter to wirelessly send ... the first video signals to the communication network” and “a set of goggles including a display to render electrical signals representative of second video signals” that “at least partially reflect surrounding views ... of a location different from a location of the mannequin” As explained previously, it would not have been obvious to combine Abbasi and Choy to provide “a set of goggles including a display to render electrical signals representative of second video signals” that “at least partially reflect surrounding views ... of a location different from a location of the mannequin”¹⁶

The examiner has not shown that it would have been obvious to modify Abbasi with the other references to include “a transmitter to wirelessly send ... the first video signals to the communication network” and “a set of goggles including a display to render electrical signals representative of second video signals” that “at least partially reflect surrounding views ... of a location different from a location of the mannequin”

Claims 6, 12, 19 and 20

The examiner acknowledged that Gutierrez failed to teach that the microphone is placed in an ear canal of the mannequin, as called for by representative claim 6. The examiner argues that it is: “**an obvious matter of design choice as to the specific location of the microphone within the**

¹⁶ Appeal Brief, p. 18.

mannequin body.”¹⁷ The examiner justifies this reasoning stating: “Such a modification is dependent upon the design considerations present at the time of development and market, based upon where and how audio data are desired to be retrieved. As such it would have been a mere matter of design choice to include the microphone within an ear canal of the mannequin.”¹⁸ However, this motivation is different from that relied upon earlier, namely: “avoiding the unattractive appearance of the ... microphone.”¹⁹

Either motivation is inadequate. The design considerations at the time of the invention should not take into consideration what was learned solely from Appellant. Those design considerations, as exemplified by Abbasi deal with the microphone to pick up sounds from the user at the computer and thus in Abbasi the microphone is physically attached to the computer. In contrast, the placement of the microphones in the ear canal of the mannequin as called for by claim 6, provides the advantage of having the user hear sounds as if the user were at the location of the mannequin, which design consider is not addressed in any combination of the cited references.

This Reply Brief is accompanied by a Request for Oral Argument.

For these reasons, and the reasons stated in the Appeal Brief, Applicant submits that the final rejection should be reversed.

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Respectfully submitted,

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¹⁷ Examiner's Answer p. 12

¹⁸ Id., p. 12

¹⁹ Id., p. 7.